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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|------------------------------|------------------|
| 10/811,735 | 03/29/2004 | Edward Barocela | 38190/274032 | 1685 |
| 826 7590 03/29/2007 ALSTON & BIRD LLP BANK OF AMERICA PLAZA 101 SOUTH TRYON STREET, SUITE 4000 CHARLOTTE, NC 28280-4000 | | | EXAMINER DINH, TIEN QUANG | |
| | | | ART UNIT 3644 | PAPER NUMBER |
| SHORTENED STATUTORY PERIOD OF RESPONSE | | MAIL DATE | DELIVERY MODE | |
| 3 MONTHS | | 03/29/2007 | PAPER | |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/811,735

Applicant(s)

BAROCELA, EDWARD

Examiner

Tien Dinh

Art Unit

3644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/12/07
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 and 21-28 is/are pending in the application.
- 4a) Of the above claim(s) 14 and 23-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19, 21 and 22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4-7, 9, 10, 16, 17, 19, 21, and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Abell 4132374.

Abell discloses a transonic aircraft but clearly can be used as a “missile” (see Kamikaze in WW 2). The missile has a fuselage, wing actuator, engine, oblique wing (aspect ratio of less than 7, see figures) that that can be swept to less than 90 degrees or at an angle of 30 to 40 degrees and mounted at the midpoint of the wing and along the one-quarter chord of the wing and at the top of the fuselage. The aircraft can fly to Mach 0.9 for at least 30 minutes with lots of fuels in the aircraft.

Claims 1-10, and 16-19, 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen 6669137 in view of Abell 4132374.

Chen '137 teaches a missile that has a fuselage member, engine (that is capable of thrusting to transonic speed), wing actuator that pivotally adjust the wing (attached to the upper and lower part of the fuselage, see figures) that is aligned with the fuselage and swings out to a sweep angle after the wing is deployed. The angle is less than 90 degrees. The midpoint of the

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wing is where the wing is attached to the fuselage. Chen '137 is silent on the wings being oblique. However, Abell teaches that oblique wings are well known and has certain aerodynamic advantages when flying at certain speed are well known in the art.

It would have been obvious to one skilled in the art at the time the invention was made to have used oblique wings in Chen '137's system as taught by Abell to allow increase aerodynamic efficiency at higher speed.

Although, it is not disclosed, the wings of Chen '137 appear to have an aspect ratio of less than 7.0. Plus, wings having aspect ratio of less than 7.0 are well known in this day and age that one skilled in the art can use to make the missile operate more efficient.

Re claim 7, it is obvious to one skilled in the art to have attached Chen '137's wings at one-quarter chord as taught by Abell so that the missile can have certain flight characteristic due to the quarter mounting to make the aircraft more maneuverable and more stable. The applicant has not included the criticality of such claimed subject.

Re claim 5, the wing sweeps at angle of 30 to 40 degrees during the deployment if desired. The sweep angle can be at any desired angle to have a more effective flying missile.

Re claim 8, it is obvious to one skilled in the art to have the fuselage member any size since this merely involves routine steps one skilled in the art would have taken to accomplish certain missions that do not require bigger missiles.

Please note that a speed of Mach .9 is a design step one skilled in the art would have taken in Chen's system to allow the missile to hit the target quickly and efficiently.

The transonic flight for at least 30 minutes is a design step one skilled in the art would have taken to allow the missile to hit the target quickly and efficiently.

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Re claim 16, Chen's missile can be configured to be releasably attached to an aircraft.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen '137 as modified by Abell, as applied to claim 1 above, and further in view of admitted prior art on page 7 or Harris et al.

Chen '137 as modified by Abell discloses all claimed parts except for the use of snubbers. However, the admitted prior art or Harris et al teaches that snubbers are well known to be used to reduce vibrations.

It would have been obvious to one skilled in the art at the time the invention was made to have used snubbers in Chen '137's system as taught by admitted prior art on page 7 or Harris et al to reduce vibration.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen '137 as modified by Abell, as applied to claim 1 above, and further in Fink et al 2423090.

Chen '137 as modified by Abell discloses all claimed parts except for the antenna that is within the wing and is substantially along the entire length of the wing. However, Fink et al teaches that antenna that spans substantially the length of the wing.

It would have been obvious to one skilled in the art at the time the invention was made to have used an antenna that is attached to substantially the entire length of the wing in Chen '137's system as taught by Fink to receive and transmit data if need be.

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Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen '137 as modified by Abell, as applied to claim 1 above, and further in view of Cohn.

Chen '795 as modified by Abell discloses all claimed parts except for the wound, spring-loaded actuator. However, Cohn teaches that wound, spring-loaded actuators are well known to pivot an object.

It would have been obvious to one skilled in the art at the time the invention was made to have used wound, spring-loaded actuators in Chen '137's system as modified by Liu and as taught by Cohn as a substitution of parts to allow a more resilient actuator to pivot the wing.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen '137 as modified by Abell, as applied to claim 1 above, and in further view of Schroppel.

Chen '137 as modified by Abell discloses all claimed parts except for fins being pivotable. However, Schroppel teaches fins that pivots at the end of the fuselage are well known.

It would have been obvious to one skilled in the art at the time the invention was made to have Chen '137's fins pivot as taught by Schroppel to make the missile more maneuverable.

Response to Arguments

The examiner appreciates the exhibits that were submitted. However, the applicant has not reduced the claimed invention to practice before August 26, 2002. Please note that the

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applicant argues the wrong reference. Chen used in the rejection is actually number 6669137 and not 6601795.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tien Dinh whose telephone number is 571-272-6899. The examiner can normally be reached on 9-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Teri Luu can be reached on 571-272-7045. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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